

REMARKS

The present invention relates to a stent into a method of treatment of a patient needing a stent or a patient needing removal of a stent.

In the Final Office Action dated June 11, 2010, claims 3, 4, 17 - 30, 32, 35, and 38 - 40 were rejected. In particularly, claims 3, 4, 17, 28, 30, 32, 35, 38 - 40 were rejected under 35 U.S.C. § 103(a) based on the U.S. Patent 5,716,410 (Wang et al.); and claims 18 - 27 and 29 were rejected under 35 U.S.C. § 103 based on Wang et al. in view of U.S. Patent 6,388,043 (Langer et al.). The Examiner further explained that the new grounds of rejection were necessitated by Applicant's previous amendment.

Applicant has herein amended independent claims 32 and 35, particularly to explicitly direct the claims to a photo-switchable SMP, and to the use thereof with a catheter equipped with a suitable light source. Furthermore, new dependent 46 has been added, directed to the preferred embodiment wherein the light of a suitable wavelength is selected from IR irradiation, and NIR irradiation and UV irradiation. Other minor amendments in terminology have been made to improve the clarity of the claims.

Support for the amendments to the claims is found e.g., in Application Publication No. U.S. 2007/0129784 A1 paragraphs [0103], [0104], [0106], [0112], and [0143] - [0145].

Applicant respectfully submits that the claims as now limited in this amendment are novel and non-obvious over the cited art of record. This is explained in further detail below.

Wang et al. teaches to heat the stent above the transition temperature of the SMP, to expand it by the balloon catheter, and to cool it below the transition temperature, in order to

stabilize the temporary form (col. 19, lines 41-49). For removal of the stent, a catheter is positioned next to the stent and the stent is again heated above the transition temperature in order to induce the recovery of the smaller permanent shape (col. 10, lines 60).

Thus, Wang et al. is exclusively directed to thermally switchable SMP, and does not disclose a photo-switchable SMP or the use of a catheter equipped with a suitable light source. Consequently, regarding claim 32, Wang et al. does not disclose to irradiate the stent with light of a suitable wavelength to fix the stent in a temporary shape *in vivo*. Regarding claim 35, Wang et al. does not disclose to irradiate the stent with light, thereby activating the shape memory effect and the recovery of the permanent compressed shape of the stent.

Applicant notes that in Langer et al., while disclosing photo-switchable SMP in general (col. 11, line 43 to col. 12, line 4), there is no specific disclosure to use photo-switchable SMPs as stent material. In particular, Langer et al. provides no concept for triggering a stent comprising a photo-switchable SMP, i.e. Lager does not disclose a catheter equipped with a light source and its use for *in vivo* programming and triggering a photo-switchable stent.

A particular advantage of photo-switchable stents is that the application of heat in order to program and/or recover the stent, that can be harmful for the adjacent tissue, is avoided. Moreover, when thermally induced SMPs are used in the medical field, one is limited to polymeric components having transition temperatures that are above body temperature but not about 50 or 60 °C in order to avoid harmful programming/recovery temperatures. On the other hand, using photo-switchable materials there is no such

limitation in terms of transition temperatures enabling a much greater freedom of chemical design.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D. C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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